Cher Milying

Appl. No. 10/088,952 Amdt. dated February 23, 2006 Reply to Office Action of August 23, 2005 **PATENT** 

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

## Listing of Claims:

- (currently amended) A method of targeting a compound to a cell overexpressing a plasminogen activator[[, ]]or a plasminogen activator receptor, the method comprising the steps of:
- (i) administering to the cell a mutant protective antigen protein comprising a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a plasminogen activator, wherein the plasminogen activator is a u-PA; and
- (ii) administering to the cell a compound comprising a lethal factor polypeptide comprising a protective antigen binding site; wherein the lethal factor polypeptide binds to cleaved protective antigen and is translocated into the cell, thereby delivering the compound to the cell.
  - 2-3. (canceled)
- 4. (original) The method of claim 1, wherein the cell overexpresses a plasminogen activator receptor.
  - 5-6. (canceled)
- 7. (previously presented) The method of claim 1, wherein the plasminogen activator recognized cleavage site is PGSGRSA (SEQ ID NO: 5).
  - 8. (original) The method of claim 1, wherein the cell is a cancer cell.
- 9. (original) The method of claim 8, wherein the cancer is selected from the group consisting of lung cancer, breast cancer, bladder cancer, thyroid cancer, liver cancer, lung

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cancer, pleural cancer, pancreatic cancer, ovarian cancer, cervical cancer, colon cancer, fibrosarcoma, neuroblastoma, glioma, melanoma, monocytic leukemia, and myelogenous leukemia.

- 10. (canceled)
- 11. (original) The method of claim 1, wherein the lethal factor polypeptide is native lethal factor.
- 12. (original) The method of claim 1, wherein the compound is native lethal factor.
- 13. (original) The method of claim 1, wherein the lethal factor polypeptide is linked to a heterologous compound.
- 14. (original) The method of claim 13, wherein the compound is shiga toxin, A chain of diphtheria toxin, or Pseudomonas exotoxin A.
  - 15-17. (canceled)
- 18. (original) The method of claim 13, wherein the heterologous compound is recombinantly linked to lethal factor.
- 19. (original) The method of claim 1, wherein the compound is a diagnostic or a therapeutic agent.
  - 20. (original) The method of claim 1, wherein the cell is a human cell.
- 21. (original) The method of claim 1, wherein the mutant protective antigen protein is a fusion protein comprising a heterologous receptor binding domain.
- 22. (original) The method of claim 21, wherein the heterologous receptor binding domain is selected from the group consisting of a single chain antibody and a growth factor.

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- 23-24. (canceled) An isolated mutant protective antigen protein comprising a matrix metalloproteinase or a plasminogen activator-recognized cleavage site in place of the native protective antigen furin-recognized cleavage site, wherein the mutant protective antigen is cleaved by a matrix metalloproteinase or a plasminogen activator.
- 25. (previously presented) The method of claim 1, wherein the lethal factor polypeptide comprises amino acids 1-254 of native lethal factor.
- 26. (previously presented) The method of claim 25, wherein the lethal factor polypeptide is linked to a heterologous compound.
- 27. (previously presented) The method of claim 26, wherein the heterologous compound is the ADP-ribosylation domain of *Pseudomonas* exotoxin A.
- 28. (previously presented) The method of claim 27, wherein the lethal factor polypeptide is recombinantly linked to the ADP-ribosylation domain of *Pseudomonas* exotoxin A.
- 29. (previously presented) The method of claim 27, wherein the lethal factor polypeptide is covalently linked to the ADP-ribosylation domain of *Pseudomonas* exotoxin A by a chemical bond.
- 30. (new) The method of claim 13, wherein the compound is covalently linked to lethal factor via a chemical bond.